REMARKS

Claim 35 has been previously cancelled. The claims remaining in the application are 1-34 and 36-42.

Applicants gratefully acknowledge the interview accorded to applicants' representative, Norman Rushefsky, on September 18, 2007. At the interview applicants' representative discussed the final rejection of claim 1 and the references Bowers and Usami. Prior to discussing these references initial discussion was made of the teaching in Rylander in column 1 thereof of a digital halftone technique. As noted in Rylander a digital halftone technique enables continuous tone images to be represented on a bilevel device by simulating the screening process used in conventional printing. A typical digital halftone technique models a continuous tone image as an array of halftone cells. The halftone cells are assigned shade values according to shade values present in corresponding areas of the continuous tone image. Each halftone cell typically has a fixed size, and is defined by a matrix of addressable points (pixels) that can be selectively turned "on" in a digital manner to form various patterns. The patterns formed by the "on" points define halftone **dot patterns** having different shapes and sizes determined according to an ordered dither. The various halftone dot patterns can be selectively printed or displayed to contain an appearance of different shade values to a human viewer.

With the above description in mind of a halftone technique, discussion was then had at the interview relative to Bowers and why Bowers must be considered a soft proofer whose output is a continuous tone image. In Bowers description of his soft proofing system the description thereof is relative to matching colors and is directed to the pixel level rather than the halftone dot level. Furthermore, in Bowers the description at column 5, lines 15-20, goes into the distinction between printing inks which are limited in the intensity in which they reflect colored light versus that of the color monitor of the soft proofer "where the color emitting elements, such as phosphor, can be made to emit any intensity of red, green and blue light. There is a total absence in Bowers of any description relative to halftone cell size and screen angles which are necessary for a proofing device that attempts to present a halftone proof in the form of a halftone image that is to be printed by a printing press. Bowers is merely concerned with color

matching of pixels or patches and provides no description of matching image structure in a halftone context. While it is recognized that Bowers discloses a halftoner 154 for performing a halftoning algorithm on the scanned image to provide signals indicating the densities of colorants CMYK that are normally used by the printer in printing a halftone rendition of the original and that such signals are fed to both the printer and the soft proofer, the description relative to the soft proofer appears only to be relevant to a continuous tone image. At the interview the Examiner expressed agreement that the soft proofer output of Bowers is a continuous tone image.

After the in-depth discussion of Bowers discussion was then had with regard to Usami. Applicants' representative acknowledged that the step S8 of Figure 1 of Usami appears to be that of a halftone technique in that discussion is had within Usami of a dithering operation that would establish halftone dots for use by his proofing printer. Even if Usami is considered to employ halftone dots in his proofing printer, applicants' representative noted that **only one halftone operation** was performed on the data used by Usami's proofing printer. Applicants' representative further noted that **only one halftone operation** was performed on the data used by Bowers' soft proofer. In the case of Usami the output thereof is a proof with a halftone dot structure. In the case of Bowers the output thereof is a soft proof display with a continuous tone image and no halftone dot structure. There is no teaching or suggestion in the combination of Bowers taken with Usami of a proof generation method **using first and second halftoning techniques** as set forth in claim 1. Applicants' representative took issue with regard to the Examiner's analysis of characterizing Bowers proofing process of using a halftoning technique in combination with a "second rendering technique" and that Usami complements the teaching of Bowers by establishing that the second rendering technique can be a halftoning technique. In reality, when the references are each taken in their respective entireties as to what they convey to one of ordinary skill in the art they at best disclose that each teaches to the routineer that halftone information that is subjected to a single halftone operation may be converted to a continuous tone image in the soft proofer of Bowers and to a halftone image in the proofer of Usami. The combination of Bowers and Usami merely suggests one halftone technique is provided to the information that is output to a proofing device. There is no intimation nor

suggestion for employing two halftoning techniques in providing of a proof in accordance with the method of applicants' claim 1. The Examiner questioned whether Usami employed two halftone techniques in creating of the proof print wherein in step S2 there is a conversion of gradation image data that is obtained through scanning and then converted into halftone dot area percentage data. Applicants' representative noted that such is merely a collection of data as to color information with no information obtained regarding screen angle and halftone dot size and other operations typical of a halftone technique. At this point in the interview the Examiner expressed understanding of applicants' position regarding the error in the Examiner's analysis of the combination of Bowers taken with Usami and agreed to consider such arguments when provided in this response.

At the interview discussion was then had with regard to claim 34 which is directed to a proof generation method wherein print data to be printed on the target halftone printing press to which a first halftoning technique has been applied has the data altered at least a plurality of the areas distributed within the edges of at least some of the dots with substantially the same color alteration, wherein the step of altering alters the areas to include **a same color that is different from the color of the dots** and providing the data to a proofing printer different from the target halftoning printing press. In considering the final rejection of claim 34 as being obvious in view of Bowers taken with Usami and Rylander applicants' representative noted that Bowers was merely directed to consideration of pixels in a continuous tone image and not with regard to areas within a halftone dot that are of a different color from that of the dots. Rylander merely discloses halftone dots that are thinned and that are of a monotone nature and don't teach at all or suggest the highlighted subject matter noted above. Thus, applicants' representative submitted at the interview that claim 34 should be patentable over the combination of Bowers taken with Usami and Rylander. The Examiner agreed to consider applicants' arguments in light of these distinctions presented at the interview.

In view of the arguments presented above regarding patentability of applicants' claim 1 it is submitted that claims 1, 3, 8, 17-18 and 42 are patentable over the combination of Bowers taken with Usami.

Claims 2, 4, 10, 12-13 and 15 stand finally rejected under 35 USC 103 as being unpatentable over Bowers in view of Usami and Vinck. Bowers and

Usami have been discussed in detail above. Vinck discloses that interference between halftone screens may be alleviated by appropriate orientation of screens with respect to each other and by stochastic placement of halftone dots. As noted by Vinck the process described by him is especially well-suited for applications using weaved silk or metal types of screens. There is no indication in this reference of suitability for use as a proof printer nor is there any teaching in combination with Bowers and Usami of using first and second halftone techniques for printing of a proof. For this reason it is submitted that these claims are also patentable over the combination of Bowers taken with Usami and Vinck.

Claims 5 and 6 stand finally rejected under 35 USC 103 as being unpatentable over Bowers in view of Usami, Vinck and Gondek. Claim 5 is a dependent claim of claim 4 and adds the feature that the step of applying a first halftoning technique employs dots from a first set of primary colors and wherein the step of applying a second halftoning technique adds at least a first additional color to a portion of one more of the dots assigned to a first of the primary colors based on the first halftoning technique. As noted above Bowers taken with Usami does not suggest that first and second halftoning techniques are employed in the creation of the image information for the proofing printer. Vinck also employs only a single halftoning technique. Gondek also employs only a single halftoning technique. Gondek however is cited for the disclosure that additional planes of color beyond the standard CMYK planes such as light cyan, light magenta, dark cyan, and dark magenta may also be provided. However, it is respectfully submitted that this combination of references also fails to render obvious the use two halftoning techniques in generation of a proofing print. Furthermore, this combination also fails to render obvious the cited feature of claim 5 of adding additional color to one more of the dots assigned to a first of the primary colors based on a first halftoning technique. For the same reason it is submitted that claim 6 is also not rendered obvious by this combination of references. In view of the above it is submitted that claims 5 and 6 are patentable over the combination of Bowers in view of Usami, Vinck and Gondek.

Claim 7 stands finally rejected under 35 USC 103 as being unpatentable over Bowers in view of Usami and Spence. Claim 7 is a dependent claim of claim 1 and adds the steps of receiving a target printing press selection command and selecting parameters for the second halftoning technique based on

the target printing press selection command. Again, the Examiner has relied upon an analysis of Bowers taken with Usami as teaching that this combination suggests proof printing using a proofer that employs both a first and a second halftoning technique. As noted above and as now recognized by the Examiner based on the interview it is quite clear that both Bowers and Usami when taken together merely suggest the use of a single halftoning technique in the process of creating of a proof print. Indeed, Bowers does not even create a proof print that employs halftone dots. Therefore, the combination of Bowers with Usami and with Spence fails to render obvious the subject matter of claim 7.

Claims 9, 11, 14, 19, 21-29, 31-34 and 36-41 stand finally rejected under 35 USC 103 as being unpatentable over Bowers in view of Usami and Rylander. The rejections of these claims is also respectfully traversed. Claims 9 and 11 are dependent claims of claim 1 and add the features respectively of printing the data with an inkjet proofing printer different from the target halftone printing press and wherein the step of applying a second halftone technique causes the complete lightening of color values in some areas of at least some of the dots from the first halftoning technique. The Examiner has cited Bowers and Usami as teaching the combination referred to in claim 1 and as noted above applicants respectfully traverse the conclusion that this combination teaches the use of a first and second halftoning technique in a process of forming a proof print. It is respectfully submitted that Rylander also employs a single halftoning technique for forming a proof print and therefore the combination of Bowers taken with Usami and Rylander does not render obvious the subject matter of claim 9. While Rylander employs a thinning technique to a halftone dot using a mask such is not presented as part of a second halftoning technique. The rejection of claims 19 and 21-25 is also respectively traversed. As noted above Bowers teaches the use of data which may be derived from a halftoning technique for generating a continuous tone image. Therefore, one of ordinary skill in the art would not consider Bowers to be relevant to the subject matter of these claims which are directed to forming of a proof print having halftone dots which match that of a target printing press. Claim 26 is directed to a method of forming a proof using data subject to a first halftoning technique and wherein there is lightening of at least some of the screen dots inside their edges to which are added a second color to some of the screen dots inside their edges. As noted above Rylander is

limited to thinning of halftone dots and provides no disclosure whatsoever with regard to substitution of a second color in the region of some of the screen dots. While Bowers is directed to accounting for color overlap of areas within a pixel, Bowers is directed to continuous tone images and not halftone images. Thus it would not be obvious to combine the teachings of Bowers and Usami with Rylander. Claim 31 is a dependent claim of claim 26 and recites the features of applying a first halftoning technique and a second halftoning technique in the creation of the proof print. For the reasons described above regarding the failure of Bowers taken with Usami as failing to teach the combination of using two halftoning techniques to generate a proof print it is respectfully submitted that even when taken with Rylander this claim too is not rendered obvious. Claims 32 and 33 are independent claims that are directed to proof generation apparatus wherein lightening logic is provided for lightening at least one portion of each of at least some of the screen dots inside their edges and an adder or adding means is provided for adding at least one region of a second color in some of the screen dots inside their edges. While it is acknowledged that Rylander teaches a halftoning technique that is subject to a masking operation for thinning pixels this technique is specifically limited to a single color and there is no disclosure relative to an adder for adding a second color in some of the screen dots inside their edges. For this reason it is submitted that claims 32 and 33 are also patentable over the combination of Bowers taken with Usami and Rylander. Claim 34 was discussed in detail at the interview and in the remarks above. Claims 40 and 41 are independent claims that are also directed to a halftone proof generation apparatus wherein print data to be printed on a target halftone printing press is modified in the producing of the proof such that altering logic or means is provided to provide a same color alteration that is different from the color of the halftone dots. As noted above Rylander provides for thinning of halftone dots that does not provide any suggestion with regard to altering using a color different from the color of the halftone dots in any such modification as is claimed in claims 40 and 41.

Claim 16 stands finally rejected as being unpatentable over Bowers in view of Usami and Caruthers. Claim 16 is a dependent claim of claim 1 and adds the feature of receiving a spot color input and applying a first halftoning technique to such spot color. However, as a dependent claim of claim 1, it is

submitted that this claim also is not rendered obvious because the combination of references applied fails to teach the use of first and second halftoning techniques to the image data that is printed by the proof printer.

Claim 20 stands finally rejected as being unpatentable over Bowers in view of Usami, Rylander and Fisch. Claim 20 is a dependent claim of claim 19 and adds the feature of a step of receiving an adjustment signal and the step of adjusting parameters of the step of lightening in response to the step of receiving a user adjustment signal. Bowers taken with Usami and Rylander fails to render obvious in the claimed method the feature of creating one or more lightened areas where direct deposition of colorant is to be lightened inside the edge of at least some of the screen dots to be printed but where indirect deposition colorant from overlapping areas is to remain and refraining from printing a subset of pixels within the periphery of the dot and further wherein the method is optimized to accurately reproduce the shaded visual image that would be printed on the printing press by causing a dot size in the data provided to the proofing printer to substantially match the dot size for the halftone printing press and causing a proof produced by the proofing printer to substantially match the color of a print produced by the target halftone printing press. As noted above Bowers does not even teach halftone printing in his soft proofer but instead employs continuous tone printing. Usami may teach halftone printing in a proofer but fails to teach the subject matter referred to above. Rylander while teaching thinning of halftone dots fails to disclose the use of same in a proofer and fails to teach the indirect deposition of colorant from overlapping areas remaining. Fisch is directed to a visual calibrator for a digital color imaging proof system. While the calibrator patches employed for calibrating the proofs may be of continuous tone or halftone format, Fisch notes (see column 2, line 65 to column 3, line 4) that his most preferred embodiment for use of the visual calibrator is with a three color electronically driven imaging system in which the intensity (energy level) of the electronic signal from the data source is proportional to the image density to be generated by the imaging system. Fisch thus is suggesting that the proofer will have a continuous tone output and not a halftone output. Like Bowers, Fisch is not even pertinent to a claim directed to a halftone proofer.

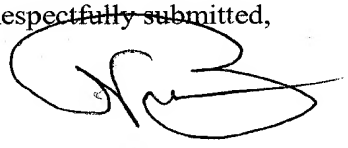
Claim 30 stands finally rejected as being unpatentable over Bowers in view of Usami, Rylander and Vinck. Claim 30 is a dependent claim dependent

upon claim 26. Claim 30 adds the feature that in the step of applying a first halftoning technique there is employed dots and wherein the step of applying a second halftoning technique causes the overlaying of colorant from at least some areas of at least some of the dots from the first halftoning technique with a different colorant. Claim 26 recites that there is lightening at least one portion of each of at least some of the screen dots inside their edges and adding at least one region of a second color in some of the screen dots inside their edges. As noted above Bowers relates to continuous tone printing. While Usami may teach the use of halftone printing in a proofer there is no indication in this reference at all of printing a proof using a first and second halftoning technique. While Rylander suggests the use of thinning of dots in a halftone printer there is no teaching or suggestion of a first and second halftoning technique for printing of a proof and no teaching at all with regard to adding at least one region of a second color in some of the screen dots inside their edges. The Examiner notes that Vinck teaches overlaying colorant from at least some areas of at least some of the dots from a first halftoning technique with a different colorant there is however no disclosure in Vinck wherein there are first and second halftoning techniques applied to the data.

In view of the above it is respectfully submitted that claims 1-34 and 36-42 are patentable over the prior art. Reconsideration of the final rejection of these claims is therefore respectfully requested.

In the event that the Examiner is of the opinion that only certain claims might be allowable, the Examiner is respectfully requested to telephone the undersigned in order to advance this application towards allowance and possibly remove the need for an appeal.

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.